

Department: ME | Date: 30 October 2020

One Day Guest Lecture on
ENERGY, EFFICIENCY AND ITS FUTURE

A report on guest lecture on **ENERGY, EFFICIENCY AND ITS FUTURE** was organized On 29th OCTOBER, 2020 for the students of ASME and final year mechanical engineering by SVEC-ASME students chapter.

Dr JABA PRIYA, Assistant Professor, Department of Chemistry Madras Christian College, Chennai was the resource person for the above programme. The programme started through online at about 3.00pm and 60 students of final year mechanical engineering and 30 students of ASME were present for the expert lecture.

Madam initially spoke about the various forms of energy and she further discussed little about Renewable energy capacity and it is set to expand 50% between 2019 and 2024, led by solar energy. This is according to The International Energy Agency (IEA)'s 'Renewable 2019' report, which found that solar, wind and hydropower projects are rolling out at their fastest rate in four years.

She discussed about the fundamentals of Thermal Power Plant and explained the various circuits in Thermal power plants where water is used as working fluid. Nuclear and coal based power plants fall under this category. She discussed that in a thermal power plant a steam turbine is rotated with help of high pressure(150bar) and high temperature steam(500 – 600°C) and this rotation is transferred to a generator to produce electricity.



SREE VIDYANIKETHAN
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SREE VIDYANIKETHAN ENGINEERING COLLEGE

A.Rangampet, Sree Sainath nagar, Tirupati-517102
(AUTONOMOUS)

AN EXPERT TALK
On
ENERGY, EFFICIENCY AND FUTURE

Organized by
SVEC - ASME
Students Chapter



ENERGY SAVING

ZOOM ID 5221988130
PW 684980

Resource Person



Dr. T. Jaba Priya
Assistant Professor
Department of Chemistry
Madras Christian College
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Govt. Aided Institution, Chennai

29 October 2020
3:00 to 4:30 pm

CONVENER
Dr. K.C. Varaprasad
Professor & Head
Department of Mechanical
Engineering
SVEC

COORDINATOR
Dr. B. Sachuthanathan
Professor
Department of Mechanical
Engineering, SVEC

The resource person discussed about Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. For example, sunlight or wind keep shining and blowing, even if their availability depends on time and weather. While renewable energy is often thought of as a new technology, harnessing nature's power has long been used for heating, transportation, lighting, and more. The sun has provided warmth during the day and helped kindle fires to last into the evening.

Over the past 500 years or so, human increasingly turned to cheaper, dirtier energy sources such as coal and fracked gas.

Some of the interesting points discussed by madam was that we have increasingly innovative and less-expensive ways to capture and retain wind and solar energy, renewables are becoming a more important power source, accounting for more than one-eighth of U.S. generation. The expansion in renewables is also happening at scales

large and small, from rooftop solar panels on homes that can sell power back to the grid to giant offshore wind farms. Even some entire rural communities rely on renewable energy for heating and lighting.

Dirty energy

The guest speaker put forward few points on Non-renewable, or “dirty,” energy includes fossil fuels such as oil, gas, and coal. Non-renewable sources of energy are only available in limited amounts and take a long time to replenish. When we pump gas at the station, we’re using a finite resource refined from crude oil that’s been around since prehistoric times. By contrast, every country has access to sunshine and wind. Prioritizing non-renewable energy can also improve national security by reducing a country’s reliance on exports from fossil fuel-rich nations. She also discussed about the power generation capacity of various sources of energy in India.

Solar Energy

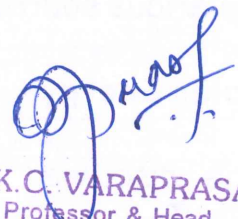
She discussed about the Photovoltaic concept used to generate electricity directly from the solar energy. Humans have been harnessing solar energy for thousands of years—to grow crops, stay warm, and dry foods. According to the National Renewable Energy Laboratory, “more energy from the sun falls on the earth in one hour than is used by everyone in the world in one year.” Today, we use the sun’s rays in many ways—to heat homes and businesses, to warm water, or power devices. Solar, or photovoltaic (PV), cells are made from silicon or other materials that transform sunlight directly into electricity.

The basic expected outcome of this Guest lecture is to create awareness to the student young minds about the Renewable source of

Energy, Especially Solar Energy and more specifically the Solar photo voltaic system where direct method of energy conversion takes place from Solar Energy to Electricity.

Madam allotted the last 15 minutes for the students to raise their questions and few students raised their doubts and he also answered their question. And at last the programme come to an end. The programme coordinator thanked the participants, the Guest speaker and the HOD for having given permission to organize this event under the umbrella of SVEC-ASME students chapter.

Coordinator: Dr.B.Sachuthananthan, Professor, Dept. of Mechanical Engineering



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